IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

ALTRIA CLIENT SERVICES LLC,	)	
	)	
Plaintiff,	)	
v.	)	1:20CV472
	)	
R.J. REYNOLDS VAPOR COMPANY,	)	
	)	
Defendant.	)	

MEMORANDUM OPINION AND ORDER

In this patent action, Plaintiff Altria Client Services LLC ("Altria") claimed that Defendant R.J. Reynolds Vapor Company's Vuse Alto e-vapor product infringed on various Altria patents. R.J. Reynolds Vapor Company ("RJR") disputed that allegation and also argued that, in any event, Altria's patents were invalid.[1] A jury found in favor of Altria on each question before it. The jury determined that RJR infringed on each Asserted Claim in the Asserted Patents[2], that RJR did not prove by clear and convincing evidence that any of the Asserted Claims was invalid, and that JUUL Labs, Inc. did not make or sell a device after May 2019 that practiced the Asserted Patents (so the JUUL device did not need to be marked with those patents). (Verdict [Doc. #458].) The jury awarded Altria $95,233,292.00 in damages for RJR's past infringement through June 30, 2022.

[1] By the time this case made it to trial, the issues had been streamlined. (Compare First Am. Compl. [Doc. #46] and Answer to Am. Compl. and Countercls. [Doc. #50] with Verdict Form [Doc. #458].)

[2] The Asserted Patents and Claims at trial were Claims 1, 9, and 10 of U.S. Patent No. 10,299,517 ('517 Patent), Claim 19 of U.S. Patent No. 10,485,269 ('269 Patent), and Claim 24 of U.S. Patent No. 10,492,541 ('541 Patent).

(Id.) Final Judgment was then entered in Altria's favor. [Doc. #473.] This matter is before the Court on RJR's Rule 50(b) Motion for Judgment as a Matter of Law [Doc. #500] and its Rule 59 Motion for New Trial or Remittitur [Doc. #495], as well as numerous related motions to seal [Docs. #421 (as modified by Doc. #467), 423 (as modified by Doc. #467), 438, 442, 447, 452, 456, 482, 484, 497, 502, 530, 538, 542, 545, 552, 555, 466 (motion to supplement), 561 (consent motion)]. For the reasons explained below, the motions to seal are granted in part and denied in part, the motion to supplement and consent motion are granted, the Rule 50(b) motion is denied, and the Rule 59 motion is denied.

I.

Both parties moved to seal portions of (1) their briefs and supporting exhibits accompanying Rule 50(a), 50(b), and 59(a) motions, (2) trial exhibits, and (3) pre-trial and trial testimony. There is both a common law right and a First Amendment right of access to judicial records and documents, defined as documents that "play a role in the adjudicative process, or adjudicate substantive rights." In re U.S. for an Order Pursuant to 18 U.S.C. Section 2703(d), 707 F.3d 283, 290 (4th Cir. 2013); accord In re Policy Mgmt. Sys. Corp., 67 F.3d 296 (table), 1995 WL 541623, at *3-4 (4th Cir. Sept 13, 1995) (finding that documents submitted to, but not considered by, the court did "not play any role in the adjudicative process" and "are [therefore] not subject to" the common law or First Amendment right of access).

The First Amendment right of access extends to judicial records and documents filed with summary judgment motions and used at trial, see Rushford v. The New Yorker Magazine, 846 F.2d 249, 252-53 (4th Cir. 1988), and thus applies here. To overcome such access, there must be "a compelling governmental interest" and "the denial [must be] narrowly tailored to serve that interest." Id. The moving party "must present specific reasons in support of its position." Va. Dep't of State Police v. Washington Post, 386 F.3d 567, 575 (4th Cir. 2004). Documents that "could provide a 'source[] of business information that might harm a litigant's competitive standing'" may, with the proper showing, be restricted from public access. Woven Elecs. Corp. v. Advance Group, Inc., 930 F.2d 913 (Table), 1991 WL 54118, at *6 (4th Cir. Apr. 15, 1991) (quoting Nixon v. Warner Commc'ns, Inc., 435 U.S. 589, 598 (1978)); see also, e.g., SMD Software, Inc. v. EMove, Inc., No. 5:08-CV-403-FL, 2013 WL 1091054 (E.D.N.C. Mar. 15, 2013) (sealing profit and loss statements, pricing, marketing strategies, expense information, and revenue and revenue growth information); ATI Indus. Automation, Inc. v. Applied Robotics, Inc., 801 F. Supp. 2d 419 (M.D.N.C. 2011) (involving trade secrets).

A court must weigh the associated competing interests by giving notice to the public of the request to seal "and a reasonable opportunity to challenge the request," consider "less drastic alternatives to sealing," and, if it decides to seal, state "the reasons (and specific supporting findings) for its decision and the

reasons for rejecting alternatives to sealing." Stone v. Univ. of Md. Med. Sys. Corp., 855 F.2d 178, 181 (4th Cir. 1988).

The Local Civil Rules require that a party claiming confidentiality support the motion to seal with evidence, "including affidavits or declarations". L. Civ. R. 5.4(c)(3). Attorneys' arguments in briefs are not evidence, but their "representation to the Court that documents contain confidential business information can be considered as some evidence" that is "weighed against competing interests." Cochran v. Volvo Group N.A., LLC, 931 F. Supp. 2d 725, 730 (M.D.N.C. 2013).

Here, the parties have commendably narrowly tailored their sealing requests and only on occasion have asked to seal the entirety of a document where no other reasonable alternative exists. The public has had notice of these motions to seal (the earliest of which was filed on August 22, 2022 and the most recent of which was filed on December 6, 2022), often identifying the same information to be sealed, and no objections appear on the record.

This Memorandum Opinion necessarily refers to material the parties have requested be redacted from public view. The purported business interests proffered in support of sealing this information cannot overcome the public's right of access to it. The public must be able to understand the bases upon which the jury decided the case and the Court denied RJR's post-judgment motions. Therefore, to the extent that information subject to the instant motions to seal is

revealed in this Memorandum Opinion, those motions to seal are denied.[3] Similarly, to the extent information subject to the instant motions to seal is not revealed in this Memorandum Opinion, the motions to seal are granted. In those instances, the business interests noted in the briefs and declarations supporting the motions to seal are significant enough to rebut the public's presumption of access.

II.

A party may move for judgment as a matter of law when "a reasonable jury would not have a legally sufficient evidentiary basis to find for the [non-moving] party" and may renew its motion after entry of judgment, Fed. R. Civ. P. 50(a), 50(b), as RJR has done here. (See R.J. Reynolds Vapor Company's Rule 50(a) Mot. on Non-Infringement and Damages [Doc. #436]; Reynolds's Rule 50(a) Mot. for J. as a Matter of Law of Invalidity of the Asserted Patents [Doc. #450]; Tr. 1056:23-1073:6 (counsel's arguments in support of and in opposition to RJR's Rule 50(a) motions), 1089:14-15 (the Court taking the motions under advisement).)[4]

The law of the regional circuit governs Rule 50(b) motions. Amgen Inc. v. Hospira, Inc., 944 F.3d 1327, 1333 (Fed. Cir. 2019). In the Fourth Circuit, "[w]hen a jury verdict has been returned, judgment as a matter of law may be

[3] Because the public can discern what should not have been sealed by comparing the publicly available redacted filings with this Memorandum Opinion, the parties need not refile those redacted documents.

[4] RJR's Rule 50(a) Motions are denied as moot. So, too, are Altria's, [Docs. #445, 454].

granted only if, viewing the evidence in a light most favorable to the non-moving party (and in support of the jury's verdict) and drawing every legitimate inference in that party's favor, the only conclusion a reasonable jury could have reached is one in favor of the moving party." Drummond Coal Sales, Inc. v. Norfolk S. Railway Co., 3 F.4th 605, 610 (4th Cir. 2021) (quoting Int'l Ground Transp. v. Mayor of Ocean City, Md., 475 F.3d 214, 218-19 (4th Cir. 2007)). Stated more simply, "[s]o long as there exists 'evidence upon which a jury could reasonably return a verdict for [the non-moving party],'" judgment as a matter of law will be denied. E.E.O.C. v. Consol Energy, Inc., 860 F.3d 131, 141 (4th Cir. 2017) (quoting Cline v. Wal-Mart Stores, Inc., 144 F.3d 294, 301 (4th Cir. 1998)). When the court reviews the evidence, "it may not make credibility determinations or weigh the evidence." Reeves v. Sanderson Plumbing Prods., Inc., 530 U.S. 133, 150 (2000); see also Finch v. Covil Corp., 388 F. Supp. 3d 593, 602 (M.D.N.C. 2019) (citing Cline, 144 F.3d at 301).

RJR moves pursuant to Rule 50(b) because, it argues, (1) there is not substantial evidence[5] of infringement, specifically that the Alto has front/rear "faces" and that it has a separate "vaporizer compartment," (2) the asserted claims are invalid as obvious by the JUUL Articles and anticipated or obvious by

[5] "Substantial evidence" is "'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'" Almy v. Sebelius, 679 F.3d 297, 301 (4th Cir. 2012) (quoting Consol. Edison Co. v. NLRB, 305 U.S. 197, 229 (1938)); Koita Mfg. Co., Ltd. v. Turn-Key-Tech, LLC, 381 F.3d 1142 (Fed. Cir. 2004) (same).

the Inova 2.0 Device, (3) there is not substantial evidence supporting pre-suit damages, and (4) there is not substantial evidence supporting the jury's damages award. (See generally Reynolds's Mem. in Supp. of Rule 50(b) Mot. for J. as a Matter of Law ("Def.'s Br. in Supp. of 50(b)") [Docs. #500 (public), #504 (sealed)].)

A.

1.

The Asserted Claims require a "front face" and a "rear face" which the Court construed to mean "front/rear surface bounded by one or more edges." (Mem. Op. at 26 [Doc. #79] (explaining that "there must be an edge between the front face and side faces, and the rear face and side faces").) RJR argues that the Vuse Alto does not have an edge separating any faces and, therefore, cannot infringe. RJR claims that Altria's infringement expert, Joseph McAlexander, failed to provide anything more than a conclusory opinion that the Alto "has edges between the faces" and to the extent he identified "rounded edges," such testimony does not satisfy the Court's claim construction. Furthermore, RJR contends that Altria's evidence failed to show that any edge, rounded or not, in the Alto bounds the alleged front/rear faces from the alleged side faces. (Def.'s Br. in Supp. of 50(b) at 2-3 (citing Tr. 255:10-257:1, 257:2-21, 778:16-779:12); Reynolds's Reply in Supp. of Rule 50(b) Mot. for J. as a Matter of Law ("Def.'s Reply Br. in Supp. of 50(b)") at 1-2 [Docs. #551 (public), #553 (sealed)]. But see

Pl. Altria's Opp'n to Reynolds's Rule 50(b) Mot. for J. as a Matter of Law ("Pl.'s Opp'n to 50(b)") at 2-3 [Docs. #537 (public), #540 (sealed)].)

However, there was sufficient evidence from which a reasonable jury could conclude the Alto does have the requisite "front face" and "rear face" as construed by the Court. First, there is McAlexander's testimony. He explained that "[a]n edge is understood to be an intersection between two surfaces, as a minimum, and it's an intersection or a transition between two surfaces." (Tr. 323:23-324:1.) Dr. James Collins, RJR's infringement expert, described an edge similarly when he testified that an edge "defines the limits of the surface." (Tr. 732:4-6.)

Using the physical sample of the Vuse Alto (PPX-011), McAlexander showed the jury (which also had samples of the device) the Alto's six faces and demonstrated that as he "rotate[d] it between [his] fingers, you can easily, as you traverse from a front face to a side face, to a rear face, to a side face, to a front face, you can feel the edges. You can feel the transition between the different faces." (Tr. 247:20-248:9, 253:14-255:22.) He continued, "And not only can you feel it, but you can see it. I mean, there is clearly edges. And they're rounded edges going from one face to the next." (Tr. 255:23-25; see also Tr. 256:1-8.) Collins likewise inspected the physical sample of the Alto as part of his analysis, acknowledging that "there's nothing quite like the physical product" that one can see and feel. (Tr. 734:3-12.) He described feeling "areas where the radius of curvature" – "the extent to which something curves changes over the shape" – "is higher" and "areas where the radius of curvature is lower." (Tr. 734:13-17.)

Responding to RJR's contention that the Alto is a smooth, continuous surface with no edges, McAlexander testified that nothing "preempts a continuous smooth, round edge" because the claim limitation "doesn't require [the edge] to be a sharp edge or a blunt edge or a bullnose edge or a round edge . . . just that it has an edge." (Tr. 256:12-24.) Collins agreed. (Tr. 778:19-21.) He also acknowledged that "every edge in practical products [has] some rounding in an edge." (Tr. 775:4-5; see also Tr. 777:6-14 (stating again that "every edge is rounded at some degree").) The jury also saw the advertisement for the Alto which stated that it "offers a rounded edge." (PX-527.)

RJR offered evidence that the Alto does not have edges. (E.g., Tr. 751:5-12, 752:5-14 (Collins testifying that the CAD images of the Alto, engineering drawings, and his mathematical calculations showed that "even though [he could] feel where a radius has happened to be one is smaller than another", "[t]here are no edges").) But it cannot be determined as a matter of law that the only conclusion a reasonable jury could make is in favor of RJR.

2.

The Asserted Claims also require a "vaporizer compartment" ('517 Patent) or "device compartment" ('269 and '541 Patents). RJR maintains that the Alto does not have a vaporizer compartment separate from the liquid compartment as McAlexander describes because "[e]ven a cursory analysis of the Alto cartridge confirms liquid flows freely into and out of the Alto portion McAlexander identifies as the separate vaporizer compartment." In addition, RJR contends that

McAlexander's testimony is inconsistent. On the one hand, he testified that the claimed liquid compartment maintains and contains the liquid. On the other hand, he testified that the drawing of the Alto cartridge in the PMTA (RX-236 at 38) showed liquid in the liquid compartment and in the vaporization compartment. (Def.'s Br. in Supp. of 50(b) at 4-5; Def.'s Reply in Supp. of 50(b) at 3-4. But see Pl.'s Opp'n to 50(b) at 3-5.) However, sufficient evidence supports the jury's finding.

McAlexander explained to the jury how the claimed pod invention works: "liquid [is contained] in the liquid compartment" until it "goes to . . . the vaporizing compartment . . . where the heating element will actually vaporize the liquid and create the vapor that is then inhaled by the smoker." (Tr. 246:9-18.) "[I]nlets provide a path so that the liquid from the liquid fill compartment has a path to get through and into the . . . vaporizer compartment." (Tr. 263:19-23.) This path is for the claimed requirement of "fluidic communication." (Tr. 263:23-24.)

Having performed a complete teardown of a sample Vuse Alto and reviewed documentation on the product, McAlexander concluded that the Alto has this claimed vaporizer compartment. (Tr. 264:15-17, 247:3-15.) He testified that liquid "flows to the vaporization compartment and stops at the top end of the ceramic filter . . . at the face in the upper end inside the inlets." (Tr. 401:11-15; see also Tr. 411:2-15 (describing the silicone "flexible barrier that operates to insure that there [is] a separation between what is above it from what is below it").) And, using the physical sample of the Alto to show the jury, McAlexander

testified that this flow of liquid "between the liquid compartment and the vaporization compartment" is the claimed "fluidic communication." (Tr. 402:16-20.) According to McAlexander, the liquid and vaporizer compartments can be separate while still allowing for fluidic communication. (Tr. 411:13-20.) This is sufficient evidence for a reasonable jury to conclude that the Alto has the claimed vaporizer or device compartment. [6] Therefore, judgment as a matter of law on the issues of direct and contributory infringement is denied.

B.

In addition to challenging the jury's verdict on infringement, RJR contends that evidence does not support the jury's finding on invalidity, specifically obviousness and anticipation. A patent is obvious "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). This determination is based on "the scope and content of the prior art", "differences between the prior art and the claims at issue", "the level of ordinary skill in the pertinent art", as well as "secondary considerations". Graham

[6] As part of several arguments in support of its 50(b) motion, RJR contends that McAlexander's invalidity testimony that the JUUL Articles do not teach the patent – because, in part, the purported vaporizer compartment is "swimming in liquid" – contradicts his infringement testimony about the Alto's vaporizer compartment. RJR had the opportunity to point out this alleged inconsistency to the jury during closing argument. RJR cannot now ask the Court to strike that testimony and argue that, without it, there is insufficient evidence to support a reasonable jury's finding of infringement or invalidity.

v. John Deer Co. of Kansas City, 383 U.S. 1, 17-18 (1966). A patent is anticipated if "each claim element [is] shown in a single [prior art] reference" and those elements are "'arranged or combined in the same way as recited in the claims.'" TF3 Ltd. v. Tre Milano, LLC, 894 F.3d 1366, 1374 (Fed. Cir. 2018) (citing Net MoneyIN, Inc. v. VeriSign, Inc., 545 F.3d 1359, 1370) (Fed. Cir. 2008) & Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983)). To invalidate a patent as obvious or anticipated, the moving party must present clear and convincing evidence. Procter & Gamble Co. v. Teva Pharm. USA, Inc., 566 F.3d 989, 994 (Fed. Cir. 2009).

Claim 1 of the '517 Patent is as follows:

> 1. A pod assembly for an e-vapor apparatus, comprising:
> a plurality of external surfaces including a front face, a rear face opposite the front face, a first side face between the front face and the rear face, a second side face opposite the first side face, a downstream end face, and an upstream end face opposite the downstream end face a portion of at least the front face or the rear face being transparent, the downstream end face defining an outlet;
> a liquid compartment configured to hold a liquid formulation such that the liquid formulation is visible through at least the front face or the rear face;
> **a vaporizer compartment in fluidic communication with the liquid compartment**, the vaporizer compartment **being adjacent to the upstream end[7] face**, the vaporizer compartment **configured to heat the liquid formulation**, the vaporizer compartment **including a heater and a wick**;
> **a vapor channel extending from the vaporizer compartment, through a center of the liquid compartment, and to the**

[7] The upstream end is opposite the end where the adult consumer places their mouth (which is the downstream end). (See, e.g., Tr. 254:4-6 ("And then we have two ends, a downstream end face, which is the mouthpiece end, and an upstream end face, which is the opposite.").)

outlet, the vapor channel being visible through at least the front face or the rear face; and

a plurality of electrical contacts having respective planar surfaces at the upstream end face and electrically connected to the heater in the vaporizer compartment, the vapor channel being between the outlet and the plurality of electrical contacts.

(Emphasis added to disputed limitations.) Claim 9 of the '517 Patent depends on Claim 1 and further teaches:

> 9. The pod assembly of Claim 1, wherein **the plurality of electrical contacts include a first electrical contact and a second electrical contact, the first electrical contact being closer to the first side face than the second side face, the second electrical contact being closer to the second side face than the first side face, the first electrical contact and the second electrical contact having respective planar surfaces**.

(Emphasis added to disputed limitations.) Claim 10 of the '517 Patent adds to Claim 1's limitations the following:

> **a device body defining a pod compartment** having a first compartment side wall, a second compartment side wall opposite the first compartment side wall, a third compartment side wall between the first compartment side wall and the second compartment side wall, and a fourth compartment side wall opposite the third compartment side wall, **the pod assembly configured to engage with the first compartment side wall and the second compartment side wall when received by the device body**, **the vapor channel of the pod assembly coinciding with a central longitudinal axis of the device body**, **the device body including a magnet, the device body including a battery configured to supply power to the heater**.

(Emphasis added to disputed limitations.)

Claim 19 of the '269 Patent and Claim 24 of the '541 Patent require the **vaporizer compartment** ("device compartment" in these claims) to be **"upstream**

from the [liquid] compartment" ("vapor precursor compartment" in the '269 Patent and "pre-vapor formulation compartment" in the '541 Patent). (Emphasis added to disputed terms.)

1.

RJR argues that it presented clear and convincing evidence at trial that the articles from Business Wire (RX-124), The Verge (RX-129), and WIRED (RX-130) (collectively referred to as the "JUUL Articles") – each dated April 21, 2015, one day before the first application for the Asserted Patents was filed[8] – render the Asserted Claims obvious.[9] (Def.'s Br. in Supp. of 50(b) at 7-16; Def.'s Reply Br. in Supp. of 50(b) at 4-9. But see Pl.'s Opp'n to 50(b) at 5-12.) However, a reasonable jury could find that RJR did not prove by clear and convincing evidence that the JUUL Articles render the claims obvious.

a.

The '517 Patent requires a vaporizer compartment adjacent to the upstream end face. The vaporizer compartment has a heater and a wick, is in fluidic communication with the liquid compartment, and is configured to heat the liquid

[8] The '269 Patent application is a continuation of the application filed on April 22, 2015. The '541 Patent application is a continuation of an application filed on October 26, 2016 which is a continuation-in-part of the application filed on April 22, 2015. The '517 Patent application is a continuation of an application filed on May 21, 2018 which is a continuation of an application filed on March 5, 2018 which is a continuation of the application filed on April 22, 2015.

[9] The jury was limited to considering the content of the three JUUL Articles and what a POSA would have been aware of at the time.

formulation. The '269 and '541 Patents additionally require the vaporizer compartment to be upstream from the liquid compartment.

As RJR argues, its invalidity expert Karl Leinsing testified that the image of the JUUL pod in the WIRED Article "shows a completely separate compartment from the liquid compartment", a "sealed box" with its only access being a wick. (Tr. 551:14-552:2, 552:18-20.) The vaporizer compartment is separate because "the vaporizer can't be swimming in liquid"; the liquid has "to be drawn in at a controlled rate . . . by a wick." (Tr. 552:4-7.) According to Leinsing, the JUUL Articles disclose that the vaporizer compartment is "in fluidic communication" with the liquid compartment because of this "liquid-to-wick kind of cartridge system". (Tr. 553:8-18, 553:21-23.) He "confirmed" this by looking at a physical sample of the June 2015 JUUL device (RPX-002A). (Tr. 553:19-554:1.) He photographed and held "the actual pod" and was "able to see the actual wick that goes into the vaporizer compartment." (Tr. 553:25-554:7.) Leinsing testified that "if you investigate the Juul pod and you kind of move it around in the light, you'll be able to see that wick, and that's where the fluid goes into the vaporizer compartment." (Tr. 554:8-10.)

From the image of the JUUL pod in the Articles, he also identified a "gold-colored, metallic piece" and "a wire . . . that's inside a notch" which is "one end of the coil . . . ." (Tr. 552:8-12.) According to Leinsing, "[t]hat's the heater that's inside the – it also indicates that that's the vaporizer compartment." (Tr. 552:12-13.) "[I]n another pictures you can see that that metal part is what comes in

contact with the battery portion." (Tr. 552:14-15.) "So a person of skill in the art, like [Leinsing], can see that this is clearly a vaporizer compartment." (Tr. 552:16-17.) And it is "configured to heat the liquid formulation." (Tr. 554:16-18.) Leinsing also testified that the vaporizer compartment in the JUUL Articles "is adjacent to this upstream end piece." (Tr. 554:11-15.)

In addition to photographing and holding the physical sample of the June 2015 JUUL device, Leinsing relied on the deposition testimony of Michael Eng, JUUL Lab, Inc.'s representative, "to confirm [his] understanding" of the vaporizer compartment. (Tr. 552:21-23.) According to Leinsing, Eng "confirmed that, in fact, this area of the JUUL pod is the vaporizer compartment." (Tr. 552:23-25.) Yet Eng did no such thing. First, Eng was not testifying about what the JUUL Articles disclosed. He was describing what he saw in photographs of the physical samples he had with him as he testified. (Stipulation Regarding Dep. Test. Played During Trial, App. C (Apr. 21, 2022) ("Eng Dep.") 44:13-18, 45:24-46:3 [Docs. #469, #469-3].) Next, using the photographs, Eng was general and equivocal about where vaporization takes place and testified that he was "not sure that [he] would characterize [the area where the vapor is made] as separate." (Eng Dep. 45:24-51:7.) He also testified that "the liquid would be aerosolized into vapor near – near the bottom of the pod, where – where the liquid comes into contact with the wick," with the "bottom of the pod" meaning "the end of the pod that is opposite where a user would put their mouth." (Eng. Dep. 46:9-21 (emphasis

added).) But, again, he was not discussing what the JUUL Articles themselves disclosed.

The jury also heard from McAlexander who served as Altria's validity expert. He explained that the June 2015 JUUL sample is not prior art because "[t]hat sample would not have been available to the person of ordinary skill in the art as of April 22, 2015" and, thus, it is not "appropriate to consider what you can see and figure out from the June 2015 sample." (Tr. 799:1-22.)

As for the JUUL Articles, McAlexander testified that there is no description "about whether [the pod] includes a vaporizer compartment." (Tr. 802:22-805:16.) He did acknowledge that the Business Wire Article lists a liquid-to-wick cartridge system as among the JUUL device's features and that the Articles "mention some mechanism to heat." (Tr. 804:14-805:16, 809:9-13.) According to McAlexander, though, there is "no description whatsoever" "in the Juul Articles of where the heater and wick are located" and "it would be impossible for a [POSA], from th[e] picture of any of the articles, to tell where [the heater and wick are]." (Tr. 809:14-22.) When asked if "a POSA at the time looking at this would think it's reasonable that there would have to be some space where there would be some air to create vaporization based on the wicking and the heating of the liquid", McAlexander responded, "The articles themself don't teach anything like that. It's not unreasonable to consider it, but once again, there's no description as to where that vaporization takes place in the Juul articles." (Tr. 858:3-11.)

He testified that a POSA "would know that there would need to be vaporization to be an e-vapor-type device" and "would have an understanding that the heating element can be in any number of different places" but that it would be speculation "as to where it is located." (Tr. 809:23-810:12, 859:22-860:1.) When asked about the area that Leinsing identified as the vaporization compartment, McAlexander testified that "there would be parts of that area that would be reasonable for vaporization to take place, but in terms of a vaporization compartment, none is shown. I cannot get that from the document." (Tr. 860:2-8.)

In addition, earlier in the trial, McAlexander had testified that the JUUL device has no vaporizer compartment because the area is "swimming in the liquid." (Tr. 310:11-17.) When testifying later on invalidity, he also described a photograph in one of the JUUL Articles as showing light yellow colored liquid that "is not only above this area that has the contact structure, but it also comes down along the side." (Tr. 816:3-12; see also 808:16-17, 808:24-809:2.) So, according to McAlexander, even assuming what Leinsing identified is a vaporizer compartment, it is not upstream from the liquid compartment "under any condition" because the necessary machinations to make it so are not possible. (Tr. 816:14-22 (testifying that he "would literally have to take whatever it is, wherever it is, and move it down below outside of this picture so that it is now upstream from"[;] "[b]ut since there is nothing below this pod picture, then that means no matter where the vaporizer is, whether it is a compartment or otherwise, it is not

upstream from the liquid compartment under any condition").) McAlexander testified that the claim requires "a device compartment upstream from the vapor precursor compartment. Not substantially upstream, not upstream for mostly of it . . . ." (Tr. 392:19-25; see also Tr. 393:1-8 (describing the claim's use of the article "the" to support his opinion).)

RJR contends that McAlexander "improperly add[ed] a limitation requiring the device compartment to be entirely upstream of the vapor precursor compartment." (Def.'s Br. in Supp. of 50(b) at 12.) But, as Altria responds, "McAlexander was testifying based on the plain and ordinary meaning of the claims as written," (Pl.'s Br. in Opp'n to 50(b) at 10-11), which he was permitted to do as a POSA, see Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005), to assess whether the JUUL Articles teach the claim. It was then in the jury's hands to weigh McAlexander's testimony with other evidence, including the testimony of RJR's invalidity expert Kelly Kodama. Kodama testified that the claim "requires the device compartment is upstream from at least a portion of the prevapor formulation compartment" because "[t]here is nothing in the claim that says it needs to be the entire portion", but he agreed "that the actual claim language does not say the words, 'at least a portion of'." (Tr. 1051:25-1052:15.)

b.

Next, the asserted claims require "a vapor channel," and the vapor channel in the '517 Patent must extend "to the outlet." Leinsing testified that as of April 22, 2015, a POSA would be aware of the different types and styles of vaping

devices, all of which "have some sort of channel to bring that vapor to a mouthpiece or to the outlet end of the device." (Tr. 527:4-528:18.)

When asked if "both the Juul product [described in the Articles] and the Inova product include a . . . vapor channel", Leinsing answered, "Yes. We didn't talk about that in detail, but that's the channel you can see through the pod." (Tr. 558:2-5, 558:17-559:3; see also Tr. 547:10-14 ("You can see the metal vapor channel in it and the vaporizer.").) He testified that the "device shown in the Juul articles" (specifically RX-129) has "some sort of channel to bring that vapor to a mouthpiece or to the outlet end of the device." (Tr. 528:3-18.) Describing the "products that were sold commercially in 2015", Eng testified that "[t]he vapor would travel through a pathway [(the silver tube)] to the top of the pod." (Eng. Dep. 54:11-16.) He did not testify about the disclosures in the JUUL Articles.

McAlexander disagreed with Leinsing. He testified that none of the Articles had a description "about where the vapor channel is and how far it extends in the device." (Tr. 802:22-803:1, 803:14-804:2, 804:11-24, 805:17-19.) Although "a POSA could look at that and see that it perhaps could be a vapor channel", "[t]here's no way to see that it extends to the outlet." (Tr. 852:3-8.) And while "[i]t would be reasonable for a [POSA] as of the date of the invention having the Juul art, as well as the Inova art and others, to know that there are different ways [to facilitate the user inhaling the vapor]," the JUUL Articles "do[] not teach that POSITA anything about whether or not [the vapor channel] is connected to the outlet." (Tr. 852:12-853:8; see also Tr. 809:3-8.) According to McAlexander, a

vapor channel "doesn't necessarily have to go to the outlet. In fact, in . . . the Inova device, it does not go to the outlet." (Tr. 852:19-21.)

c.

Claims 1 and 10 of the '517 Patent require "a plurality of electrical contacts having respective planar surfaces at the upstream end face" which the Court construed as "more than one electrical contact, the surface of each being flat and each being located at the surface of the upstream end face of the pod end face; of the two end faces, the upstream end face is the one furthest from the area a smoker would normally place his or her lips when smoking," (Mem. Op. at 24 [Doc. #79].) Claim 9 of the '517 Patent also requires that the "plurality of electrical contacts include a first electrical contact and a second electrical contact, the first electrical contact being closer to the first side face than the second side face, the second electrical contact being closer to the second side face than the first side face, the first electrical contact and the second electrical contact having respective planar surfaces."

Leinsing testified that the JUUL Articles disclose two electrical contacts that meet the claims' requirements. (Tr. 558:2-5, 559:6-12 ("[W]e can see those [electrical contacts] in the upstream end face, there's two of them. . . . They don't have to be flush, they just have to be at the end face and that's presenting in the Juul articles.").) The jury also heard from Eng who testified "the metallic plates, those are electrical contacts." But he was not discussing whether the JUUL

Articles disclosed these contacts or anything more specific about the claims' contacts. (Eng. Dep. 50:16-23.)

McAlexander did not dispute that the JUUL Articles disclosed a plurality of electrical contacts (specifically two) "at the bottom," but he disagreed that the Articles showed the electrical contacts to be "at the upstream end." (Tr. 863:7-23.) He testified that they "are angled slightly" and "are recessed away from the upstream end" and, therefore, not at the upstream end. (Tr. 310:3-5, 310:18-311:4, 813:21-814:6, 863:23-864:7.)

RJR argues that McAlexander used a claim construction the Court rejected. The claim was construed to mean "more than one electrical contact, the surface of each being flat and each being located at the surface of the upstream end face of the pod end face; . . . ." (Mem. Op. at 24 [Doc. #76] (emphasis added).) McAlexander consistently testified that electrical contacts that were recessed were not at the upstream end, the equivalent of saying they are not at the surface of the upstream end face. That he testified in the affirmative when RJR's counsel's asked if the contacts "would have to be flush or substantially flush," (Tr. 388:13-15), does not use a construction the Court rejected when it is read in the context of McAlexander's other testimony interpreting "at the upstream end." The jury was entitled to consider this opinion.

d.

Claim 10 of the '517 Patent includes limitations for "a device body" that Leinsing testified are depicted in the JUUL Articles. (Tr. 559:13-21; see also Wired

Article (RX-130).) McAlexander did not testify otherwise. He did, though, opine that "the positions [he had] taken with regard to Claim 1 equally apply to Claim 10." (Tr. 814:22-815:2.) Therefore, according to McAlexander, because the JUUL Articles do not disclose certain limitations from Claim 1, the Articles also do not disclose the same limitations found in Claim 10.

e.

In sum, RJR and Altria presented conflicting evidence on the issue of whether the Asserted Claims are invalid as obvious over the JUUL Articles. RJR argues that its evidence was clear and convincing, "a POSA would have seen the benefit of combining or modifying elements of the prior art and would have had a reasonable expectation of success," "Altria presented no evidence of secondary considerations of non-obviousness," and "Altria's positions" on "the handful of claim limitations [Altria argues] were not disclosed or rendered obvious" "contradict its infringement arguments." (Def.'s Br. in Supp. of 50(b) at 6-7.) According to RJR, no reasonable jury could fail to find in its favor. But considering the evidence above in the light most favorable to Altria, a reasonable jury could find that RJR failed to show by clear and convincing evidence that the JUUL Articles render the asserted claims invalid as obvious.

2.

RJR also argues that it presented clear and convincing evidence that the Inova 2.0 Device ("Inova") anticipates Claim 19 of the '269 Patent and Claim 24

of the '541 Patent or renders obvious all of the Asserted Claims. (Def.'s Br. in Supp. of 50(b) at 16-24; Def.'s Reply Br. in Supp. of 50(b) at 4-9. But see Pl.'s Opp'n to 50(b) at 12-16.) However, a reasonable jury could find that RJR failed to meet its burden.

a.

As stated above, the '517 Patent requires a vaporizer compartment adjacent to the upstream end face. The vaporizer compartment has a heater and a wick, is in fluidic communication with the liquid compartment, and is configured to heat the liquid formulation. The '269 and '541 Patents additionally require the vaporizer compartment to be upstream from the liquid compartment.

Aiding Leinsing in his testimony were a video of the Inova (RX-252, RX-252A, 252-B, 252-C) and a physical sample of the Inova (RPX-12). Leinsing saw no discernable difference between the device in the video and the physical sample. (Tr. 534:11-535:13.) He testified that the Inova has a vaporizer compartment in fluidic communication with the liquid compartment. (Tr. 555:7-13.) He described the vaporizer compartment, as seen in the video and the sample, as an "all metallic" "closed separate compartment" into which "the liquid flows . . . in a controlled manner, again, through a wick." (Tr. 555:1-21.) He testified that the top cylinder includes "part of the coil, and then the wires extend down further to the upstream end" and that the cylinder labeled 2.2 Ohms is "not the entire

vaporizer compartment." (Tr. 567:24-568:13.) According to Leinsing, "the vaporizer compartment includes all the wires of the heating coil where it connects to the electrical contacts. That's a closed compartment in that area." (Tr. 569:3-6.) From his teardown of the sample, Leinsing identified the wick and two coils that "came out of this compartment." (Tr. 556:1-6.) Thus, according to Leinsing, the vaporizer compartment that is "adjacent to the upstream" is configured to heat the liquid formulation. (Tr. 556:7-18.)

On the other hand, McAlexander testified that he "cannot see the internal components" of the Inova in the video, only "the semblance of something there," (Tr. 819:25-820:2), although he could identify "some of [its] features" such as a mouthpiece, fluid inside, and "the metallization structure" "for the upstream end and all the way up through the tube to the mouthpiece," (Tr. 820:3-16.) As for the Inova's cylinder labeled 2.2 OHMs, McAlexander testified that a POSA would find that to be a "strong inference that somewhere in there is a 2.20 OHM resister which could be considered as a heating element." (Tr. 821:12-19.) But he found "no reason to understand that [the metal cap that says 2.2 OHMs] is [a vaporizer compartment]." (Tr. 822:1-3.) Even if it were, it would not be adjacent to the upstream end or upstream from the liquid compartment. (Tr. 821:20-822:6, 825:1-15.) "It is actually moved back toward the downstream end." (Tr. 822:5-6.) In addition, McAlexander testified that "[i]t is very clear from the YouTube video that the liquid in this area extends all the way down to the upstream interface, upstream end face." (Tr. 825:11-19.) For the alleged vaporizer compartment to be

upstream from the liquid compartment, he would have to remove it "and put it below the picture for that to be upstream from the liquid compartment," "[a]nd that's not possible from this." (Tr. 825:19-24.)

b.

Next, the Asserted Claims require "a vapor channel," and the vapor channel in the '517 Patent's asserted claims must extend "to the outlet." As noted above, Leinsing testified that as of April 22, 2015, a POSA would be aware of the different types and styles of vaping devices, all of which "have some sort of channel to bring that vapor to a mouthpiece or to the outlet end of the device." (Tr. 527:4-528:18.)

Using the physical sample of the Inova, Leinsing testified, "You can see the vapor channel in it" and the mouthpiece. (Tr. 534:20-23, 535:1-4.) He identified those same components in the device shown in the video. (Tr. 537:11-24; see also 548:4-5.) When asked at the end of his direct examination if "both the Juul product and the Inova product include" "the vapor channel", Leinsing answered, "Yes. We didn't talk about that in detail, but that's the channel you can see through the pod." (Tr. 558:17-18; 559:1-3.)

McAlexander also identified the mouthpiece and "metallization structure . . . for the upstream end and all the way up through the tube to the mouthpiece." (Tr. 820:3-16.) He testified, though, that because the Inova is refillable, its

mouthpiece twists off and "you can see that the tube stops way before the end of the mouthpiece", "before it gets even to the surface of where the mouthpiece is going to connect in two." (Tr. 820:19-23, 822:18-22.) McAlexander explained that the claims' limitation requires "the downstream end face defining an outlet," which means "the outlet is at the downstream end." (Tr. 822:14-16.) Thus, "the vapor channel [is required] to extend to that downstream end, actually to the outlet." (Tr. 822:16-18.) But, according to McAlexander, "clearly", the Inova's vapor channel "terminates prior to the outlet." (Tr. 822:23.)

c.

As explained above, Claims 1 and 10 of the '517 Patent require "a plurality of electrical contacts having respective planar surfaces at the upstream end face" which the Court construed as "more than one electrical contact, the surface of each being flat and each being located at the surface of the upstream end face of the pod end face; of the two end faces, the upstream end face is the one furthest from the area a smoker would normally place his or her lips when smoking," (Mem. Op. at 24 [Doc. #79].) Claim 9 of the '517 Patent also requires that the "plurality of electrical contacts include a first electrical contact and a second electrical contact, the first electrical contact being closer to the first side face than the second side face, the second electrical contact being closer to the second side face than the first side face, the first electrical contact and the second electrical contact having respective planar surfaces."

As the video of the Inova played, Leinsing narrated, "See the upstream end face where the electrical contacts are." (Tr. 537:11-19.) One of those electrical contacts is "slightly recessed" from the upstream end face. (Tr. 570:4-15.) When asked at the end of his direct examination if "both the Juul product and the Inova product include" "electrical contacts," Leinsing answered, "So we can see those in the upstream end face, there's two of them. . . . They don't have to be flush, they just have to be at the end face and that's presenting in the Juul articles." (Tr. 558:17-18; 559:6-12 (emphasis added).)

McAlexander also testified that one of the Inova's electrical contacts is recessed. (Tr. 823:11-16.) Unlike Leinsing, though, McAlexander therefore concluded that "there are not a plurality of electrical contacts at the upstream end face." (Tr. 823:16-18.) Not only did McAlexander conclude the Inova failed that claim limitation, but he also testified that its "concentric contacts" do not meet Claim 9's additional limitation because the "outside contact, the circular contact area . . . is just as close to the left side as it is to the right side." (Tr. 823:25-824:9.) The same is true for the recessed center contact. (Tr. 824:9-12.)

d.

Claim 10 of the '517 Patent includes limitations for "a device body including a magnet and a battery." Leinsing testified that the Inova has a device body, (Tr. 559:15-16), and described the sample as having "a device portion to it" with a battery, (Tr. 534:20-535:1). He did not testify that the device body has the requisite magnet and battery, but McAlexander did. (Tr. 867:13-23.)

e.

In sum, RJR makes the same arguments here in support of invalidity as it did with the JUUL Articles above. Although the parties present conflicting evidence on the issue of whether the Inova invalidated the Asserted Patents as anticipated or obvious, a reasonable jury could find that RJR failed to show by clear and convincing evidence that the Inova 2.0 Device invalidated the Asserted Patents.

C.

Next, with respect to pre-suit damages, RJR argues that no reasonable jury could find that the JUUL device did not practice the Asserted Patents. RJR claims that McAlexander's testimony about the JUUL device's vaporizer compartment (or lack thereof) contradicts his infringement opinions[10] and that he "improperly argue[d] claim construction" when he opined on the device's vaporizer compartment[11] and electrical contacts[12]. (Def.'s Br. in Supp. of 50(b) at 24-25. But see Pl.'s Opp'n to 50(b) at 16-18.)

McAlexander testified that there is no vaporizer compartment in the JUUL device. "[T]he bottom portion of th[e] liquid-filled region, is something that looks shiny and gold[;] [i]t's some metal plates. But rather than being in a vaporizer compartment, it's swimming in the liquid. So, therefore, there is not vaporizer compartment." (Tr. 310:3-17; see also Tr. 412:6-20 (testifying that the purported

[10] See supra n.6.
[11] See supra § II.B.1.a.
[12] See supra § II.B.1.c.

vaporizer compartment "is not sitting below the liquid compartment, because the liquid compartment, liquid at least extends beyond that boundary to the bottom, all the way to the bottom".) Because there is no vaporizer compartment, the JUUL device is also missing the vapor channel (that must extend from the vaporizer compartment). (Tr. 368:6-15.) Next, "the electrical contacts are angled slightly" and "are recessed" so "they're not at the upstream surface." (Tr. 310:20-311:4; see also Tr. 372:20-374:9 (clarifying that the claim states "at the upstream end face" and because these contacts are recessed "they are not at the upstream end face").) Thus, according to McAlexander, the JUUL device is missing two limitations in Claim 1 of the '517 Patent.

He also opined that the JUUL device is not only missing the vaporizer compartment (or "device compartment") but, even if there were a vaporizer compartment, "clearly" "it's not upstream from the liquid compartment" because "the liquid compartment comes down, at least along the sides of where th[e] metallization area is."(Tr. 311:16-312:6; see also Tr. 371:12-372:15 (explaining why there is "no separation of compartments"); Tr. 389:8-393:20 (explaining why there is no vaporization compartment and, even if there were, it is not entirely upstream from the liquid compartment); Tr. 412:21-413:4 (testifying that the "wick and where the vaporization occurs, is not upstream of the liquid compartment").) Thus, according to McAlexander, the JUUL device is missing limitations in the '269 Patent and the '541 Patent.

In addition, the jury heard from JUUL Labs Inc.' representative, Eng, who was asked if the "area where the vapor is made . . . is . . . separate from the part of the pod that is holding the liquid." (Eng. Dep. 50:2-6.) He responded, "I think the best way I could describe that is it's contained within the pod which holds the liquid. So I'm not sure I would characterize it as separate. (Id. 50:8-12.)

Kodama, who "was in charge of the entire development of the physical part of the [JUUL] product, so both the pod as well as the device portion", testified that "the commercially available Juul pod device [from 2019 and later] meets all of these claim limitations for these Altria Patents." (Tr. 1006:14-21, 1036:3-5, 1037:3-8.) But he also acknowledged that "the vapor channel stops at that silicone end cap that caps off the mouthpiece, the stainless steel tube portion" and that liquid is on both sides of the purported vaporizer compartment. (Tr. 1046:17-21, 1047:2-17, 1052:11-17, 1054:4-9.) And, despite identifying on its intellectual property website 53 U.S. Patents for the JUUL device body and pod, JUUL did not list any of the Asserted Patents as among those its JUUL device practiced. (Tr. 1041:16-1042:24.)

Considering this evidence in the light most favorable to Altria, a reasonable jury could find that the JUUL device from 2019 and later did not practice the Asserted Claims.

D.

Finally, RJR contends that there is insufficient evidence to support the jury's use of a 5.25% royalty rate or the concept of built-in apportionment. "At most, . .

. the evidence supports a royalty rate of 2.1%." (Def.'s Br. in Supp. of 50(b) at 25-28; see also Def.'s Reply Br. in Supp. of 50(b) at 9-14. But see Pl.'s Opp'n to 50(b) at 19-24.)

1.

"Upon a finding of infringement, 'the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer.'" Virnetx, Inc. v. Cisco Sys., Inc., 767 F.3d 1308, 1326 (Fed. Cir. 2014) (quoting 35 U.S.C. § 284). The "hypothetical negotiation approach" is the "most common method for determining a reasonable royalty," id., and was the approach the parties' damages experts agreed applied here.

In support of Altria's requested royalty rate of 5.25%, its damages expert, James Malackowski, testified that his "overall approach" to his "damages analysis" had four steps: selecting the method of calculating the royalty, determining the necessary evidence, looking for comparable agreements or benchmarks, and applying factors from Georgia-Pacific. (Tr. 427:13-428:10.) He used the hypothetical negotiation method and explained his assumptions in doing so. (Tr. 428:20-430:18.) He reviewed deposition testimony, expert reports, business records, sales data, and marketing materials, interviewed McAlexander, and observed trial testimony. (Tr. 430:21-437:22.)

He determined the 2016 Fontem-Nu Mark agreement ("Nu Mark agreement") (PX-521) and the 2018 Fontem-Reynolds agreement ("Reynolds agreement)" (PX-586) were comparable agreements. (Tr. 437:23-439:1.) Malackowski found the Nu Mark agreement "meaningful" because it would have been known to the parties in 2019 when the first of the Asserted Patents issued, the front page of the agreement notes a 5.25% royalty rate, and it provided that the royalty would not be less than 6% of the cost of goods sold. (Tr. 440:11-441:7.) Malackowski reviewed "the business records that were used to develop the figures in the agreement." From those records, he understood that a 5.25% royalty, "projected out" "would be about $44 million" which is comparable to "what they actually paid . . . $43 million." This gave Malackowski "great confidence, that that five-and-a-quarter percent was the real benchmark." He testified that "[b]asically, all roads . . . keep leading back to this five-and-a-quarter percent benchmark." (Tr. 441:13-442:6.)

Next, he explained that section 6.10.9 of the agreement is a representation by Fontem that Nu Mark "can feel comfortable at five-and-a-quarter percent, because we will represent to you that no one has ever gotten a better deal." Malackowski found this important because "it's another path or roadway back to five-and-a-quarter" and "it tells [him] for an extended period of time, this five-and-a-quarter percent has been accepted by the industry . . . for e-cig technologies." (Tr. 442:10-23.)

In addition, the "referee clause" or "most favored licensee" clause in the agreement tells Nu Mark "that no one is going to get a better deal in the future" because Nu Mark is afforded the opportunity to challenge "the deal" another licensee enters into with Fontem and to renegotiate with Fontem if a referee determines the other licensee received "a better deal." The "caveat" is that "[t]here's sort of a deductible, meaning they don't want to fight whether it's five and a quarter or 5.22. So they say, it has to be somewhat less, like 3.6 percent or less." To Malackowski, this is an "assurance that the parties expected the five-and-a-quarter percent would be fair for the industry into the future. (Tr. 442:24-443:22.)

Next, Malackowski testified that the Reynolds agreement was also comparable because Fontem and Reynolds were competitors like Altria and Reynolds, it is "closer in time to the hypothetical negotiation," and, although the agreement does not provide a royalty of 5.25%, other information leads to the conclusion "that that is what the document is based on." (Tr. 443:25-444:21.)

For example, Malackowski testified that the referee clause in the Nu Mark agreement was triggered, and a referee was hired who determined that there was "no need to readjust the Reynolds' agreement" which meant Reynolds was not paying a 3.6% royalty. (Tr. 448:3-13 (critiquing the opinion of RJR's damages expert, Dr. Nisha Mody, that the appropriate royalty rate here is 0.21%).) However, Steven Schroeder, Altria's 30(b)(6) witness, testified that he did not know with which company Fontem contracted that triggered the most favored

licensee clause, but "[a]n MFL expert was involved in the process" and concluded "[t]hat -- that particular entity was not getting a better rate . . . ." (Stipulation Regarding Dep. Test. Played During Trial, App. F (June 24, 2021) ("Schroeder Dep.") 127:17-20, 128:10-129:3 [Doc. #469-6].)

In addition, as Malackowski understood, Reynolds stipulated for purposes of the trial that it "was aware that there was a range of royalty rates, previously negotiated by Fontem, a number of which were based on 5.25 percent of net sales." "[T]hat gave [Malackowski] comfort, that the 79 million [payment by Reynolds] was consistent with industry practice." (Tr. 444:24-445:11.) He did acknowledge, though, that he was not saying the earlier agreements (before the Nu Mark agreement) were economically or technically comparable nor did he have those agreements to review. Instead, he read summaries from news releases. (Tr. 484:12-485:4.) After summarizing his comparable agreement analysis, Malackowski opined "that the appropriate royalty rate is no less than that starting benchmark of five and a quarter percent." (Tr. 448:14-449:17.)

And, finally, Malackowski explained how he applied the Georgia-Pacific factors and that he "triple-checked" the factors on which he and Dr. Mody disagreed. (Tr. 449:18-453:14.)

The jury also heard from Dr. Mody who critiqued Malackowski's conclusions. (Tr. 960:10-961:1.) For example, the 5.25% which he testified was on the front of the Nu Mark agreement is "for sales outside the United States" and

the $43 million was "the only amount that Nu[]Mark actually paid to Fontem." (Tr. 961:3-18.) She did not believe the information supported 5.25%. (Tr. 964:2-4.)

As for her own analysis, Dr. Mody focused on the Reynolds agreement as "the most comparable agreement" because Reynolds was the licensee, the products at issue were the Vuse products including the Alto, and it was executed closer in time to the hypothetical negotiation. (Tr. 950:17-951:17.) Using Alarcon's opinion that the value of the Asserted Patents was 10% the value of the Fontem portfolio, Dr. Mody calculated 10% of the $79 million payment which "adjusted for technological differences between the Fontem-Reynolds agreement and the hypothetical negotiation." (Tr. 953:1-954:11.) She then "adjust[ed] for timing" by reviewing RJR's "internal documents and sales information" and divided $7.9 million by "the amount of sales covered under the Fontem-Reynolds agreement, which is $3.8 billion" to arrive at "an effective royalty rate of 0.21 percent." (Tr. 955:17-956:12.)

In response to Dr. Mody's opinions, Malackowski performed similar analyses "illustrating [his] critiques." (Tr. 503:22-24.) For example, he calculated a royalty rate of 2.1% for the Reynolds agreement but that was including all of the Vuse products (Alto, Ciro, Solo, and Vibe) "for an extended period of time," and he considered that rate irrelevant. (Tr. 503:24-504:12.) Malackowski also explained to the jury he found her calculated rate did not "represent a basic principle of fairness" because it did not account for the patents' contributions to the "economics of the [Vuse Alto]." (Tr. 445:14-448:2.) In addition, her calculation

"cannot be correct" because the referee clause in the Nu Mark agreement was triggered by, as Malackowski believed, the Reynolds agreement and yet that agreement was not "readjusted" as a result. "So it just can't be that the Reynolds' agreement would support a royalty rate of a fraction of a percent." (Tr. 448:3-13.)

Considering the evidence in the light most favorable to Altria, a reasonable jury could accept Malackowski's royalty rate of 5.25%.

2.

Next, RJR contends that there is insufficient evidence to support Altria's built-in apportionment theory because the technology in the Fontem portfolio differed from that of the Asserted Patents and the Fontem portfolio indisputably involved dozens of patents compared to the three Asserted Patents. RJR argues that it presented the only evidence of apportionment at trial, and that evidence supports apportionment of 10%. (Def.'s Br. in Supp. of 50(b) at 27-28.)

There is no dispute that "'the patentee must in every case give evidence tending to separate or apportion . . . the patentee's damages between the patented feature and the unpatented features . . . .'" Omega Patents, LLC v. CalAmp Corp., 13 F.4th 1361, 1376 (Fed. Cir. 2021) (quoting LaserDynamics, Inc. v. Quanta Comput., Inc., 694 F.3d 51, 67 (Fed. Cir. 2012) (cleaned up per Omega Patents, LLC)). This apportionment can be "built-in" "'when a sufficiently comparable license is used as the basis for determining the appropriate royalty . . . .'" Id. at 1376-77 (quoting Vectura Ltd. v. GlaxoSmithKline LLC, 981 F.3d 1030, 1040 (Fed. Cir. 2020)). This is so because "'[b]uilt-in apportionment effectively assumes

that the negotiators of a comparable license settled on a royalty rate and royalty base combination embodying the value of the asserted patent.'" Id. at 1377 (quoting Vectura Ltd., 981 F.3d at 1041).

It is the patentee's burden to show that the licenses are sufficiently comparable. Id. (citing Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1329 (Fed. Cir. 2009)). When "allegedly comparable licenses . . . cover more patents than are at issue in the action, including cross-licensing terms, [or] cover foreign intellectual property rights", the patentee is "required to 'account for such distinguishing facts when invoking [the licenses] to value the patented invention.'" Id. at 1380 (quoting Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3 1201, 1227 (Fed. Cir. 2014) (alterations in Omega Patents, LLC)).

The Fontem patent portfolios licensed in the Nu Mark and Reynolds agreements "[a]t a high level," correspond to each other "fairly significant[ly]." (Tr. 298:8-299:2 (testifying that the differences included patents whose applications were pending for the Nu Mark agreement that had either been granted or withdrawn by the time of the Reynolds agreement, but "for a preponderance of it, it really is the same").)

The Fontem portfolio included "probably around 63 different cites to patents or patent publications" which McAlexander determined he could categorize into thirteen separate groups. (Tr. 299:6-17.) He eliminated four groups whose patents were never issued and thus had no value, three groups with a single patent each directed to "a very small portion of the e-cigarette" and of de minimis value (such

as a patent where the device "pierces" to have access to the liquid which "increase[s] leakage" and a patent that "was a mesh"), and one group of five drawing patents that showed "the ornamental aspect of something" that were "easy to design around."[13] That left five groups "that really had the value associated with a portfolio" – the spray atomizer family, the shell design family, the body sensitive sensor family, the reed switch family, and the air channel family. (Tr. 299:18-300:13, 301:6-10, 302:12-21.) He then determined that "in every case within the five families . . . , each family had the exact same specification. In other words, it was a family of patents that had an original patent and continuations." So he was able to select a representative patent for each. (Tr. 300:14-25.)

Next, McAlexander assessed the representative patents' technical comparability with the Asserted Patents. To do so, first he "look[ed] at the subject matter as a whole." (Tr. 301:11-24.) Although the Fontem patents are not "directed to pods" and are "more related to the cig-alike type of device," McAlexander determined they were nevertheless technically comparable because

[13] McAlexander also testified that, despite RJR's argument to the contrary, he considered eleven other patents, some of which were abandoned. Of those that were patents, "each one was directed to a different family, . . . they were just single patents" and "they were very, very singularly directed to small aspects of the cigarette, but not cigarette as a whole." He "also concluded that the claims were very narrow in scope." He determined that these patents did not "add any additional value to what [he] already concluded in the five families of the Fontem patents." (Tr. 305:21-306:19.)

"[t]hey comprise different ways of implementing . . . an e-cig-type device." (Tr. 301:25-302:7.)

More specifically, McAlexander testified that the spray atomizer family is technically comparable to the Asserted Patents because it is "drawn to the entirety of the e-cigarette" ("just a different form") and includes a "battery assembly," "an atomizer," and "a liquid holding portion." (Tr. 302:25-303:17.) The shell design family is technically comparable because "it's directed to the aerosol electronic cigarette" and "relates to the battery, the battery assembly, the atomizer assembly," and the "liquid reservoir." (Tr. 303:18-304:3.) The body sensitive sensor family is technically comparable because it is "related to electronic cigarette as a whole, including the battery, the liquid storage, and the vaporization." (Tr. 304:4-12.) The reed switch family is technically comparable because it "address[es] electronic cigarette as a whole," "includes a mouthpiece," "the atomizer and the storage component," along with "some additional areas." (Tr. 304:13-22.) And, finally, McAlexander testified – and Alarcon agreed – that the air channel family is technically comparable to the Asserted Patents because it addressed "the entirety of the e-cigarette" as its "housing has a battery, a liquid storage compartment, an atomizing core, and a channel extending through and surrounding the liquid storage compartment." (Tr. 305:3-20.)

Next, McAlexander opined on the comparative technical value of the patents. Among the families themselves, he found there were "gradations of value," but he determined that the Asserted Patents' value "was greater than that

collective value of the Fontem families." (Tr. 360:3-14. See also Tr. 306:22-307:4, 360:15-361:24.) One reason is because the Asserted Patents afford for less likelihood of leakage because of the "pod design itself with the separate compartments between the liquid and the vaporizing compartment" and "the location of the compartments such that the vaporizing compartment is furthest away from the mouthpiece." This is "not provided by any of the Fontem patents, because all [of them] are directed to e-cigarette or bottle-type devices, several of them with the screw type." (Tr. 307:5-20.)

Alarcon, who is either "the named inventor on a number of the patents" in the Fontem portfolio or the supervisor of the named inventor of those patents, disagreed with McAlexander. (Tr. 883:24-884:23.) It was his opinion after looking at key elements in the Asserted Patents that only the air channel family of the Fontem portfolio was technically comparable to the Asserted Patents. (Tr. 885:15-887:21, 891:24-892:15.) He explained to the jury why each of the other families was not technically comparable and why some of the patents that McAlexander did not value should have been. (Tr. 888:3-889:2 (spray atomizer), 889:5-23 (shell design), 890:2-23 (reed switch), 890:24-891:21 (body sensitive sensor and atomizer patents), 895:8-899:2.) He also testified that various benefits – decreased leakage, transparency, the pod design – attributed to the Asserted Patents existed before April 22, 2015. (Tr. 899:22-903:16.)

RJR's argument that "Altria offered no evidence of apportionment at trial" is not supported by the record. McAlexander testified why he used the Nu Mark and

Reynolds agreements as comparable agreements, accounted for the differences between the Fontem portfolio and the Asserted Patents, and explained why he believed the Asserted Patents were more valuable than the entirety of the Fontem portfolio. Alarcon's disagreements with McAlexander are just more evidence for the jury to consider. Sufficient evidence supports Altria's built-in apportionment theory.

E.

In conclusion, RJR's motion for judgment as a matter of law pursuant to Rule 50(b) is denied.

III.

The law of the regional circuit applies to motions for a new trial. Adasa Inc. v. Avery Dennison Corp., 55 F.4th 800, 913 (Fed. Cir. 2022). A court may grant a new trial pursuant to Federal Rule of Civil Procedure 59(a) when "'(1) the verdict is against the clear weight of the evidence, or (2) is based upon evidence which is false, or (3) will result in a miscarriage of justice, even though there may be substantial evidence which would prevent the direction of a verdict." Doe v. Fairfax Cnty. Sch. Bd., 1 F.4th 257, 268-69 (4th Cir. 2021) (quoting Minter v. Wells Fargo Bank, N.A., 762 F.3d 339, 346 (4th Cir. 2014)). In making this assessment the court "may weigh the evidence and consider the credibility of the witnesses." King v. McMillan, 594 F.3d 301, 314 (4th Cir. 2010). Here, RJR argues that a new trial is warranted because of "Altria's improper injection of inflammatory evidence" and the Court's "erroneous evidentiary rulings." Further,

RJR contends that the jury's damages award stems from legal error and requires a new trial or remittitur. (Reynolds's Mem. in Supp. of R. 59 Mot. for New Trial or Remittitur ("Def.'s Mem. in Supp. of 59(a)") [Docs. #496 (public), #499 (sealed)]; Reynolds's Reply in Supp. of R. 59 Mot. for New Trial or Remittitur [Docs. #554 (public), #556 (sealed)]. But see Pl. Altria's Opp'n to Reynolds's Rule 59 Mot. for New Trial or Remittitur ("Pl.'s Opp'n to 59(a)") [Docs. #541 (public), 544 (sealed)].)

A.

Prior to trial, the parties stipulated, among other things, that "Altria will not present argument, evidence, testimony, or make reference to alleged prior infringement by Reynolds of patents not related to the present case or otherwise imply that Reynolds is a serial infringer." (Tr. 626:7-25.)

Dr. James Figlar testified as RJR's corporate representative, (Tr. 587:1-14), on a range of topics, including the intellectual property rights of others. Excerpts of his deposition testimony on this topic were played at trial. (Stipulation Regarding Dep. Test. Played During Trial, App. D ("Figlar Dep.") (July 22, 2021) [Docs. #469, 469-4].) He testified that RJR research and development tracks competitive information including "the intellectual property landscape" and "if there's anything that we think would certainly infringe on what we're developing, then we would certainly try to steer away from that." (Figlar Dep. 78:1-79:9.) RJR "would get regular updates of recently published or issued patents" and become aware of a patent "as early as a couple weeks" after issuance. (Id. 79:10-16, 98:6-15.)

Dr. Figlar also testified at trial on this topic. For example, RJR has licensed patents from other companies that own the intellectual property. (Tr. 622:23-623:6.) He explained that before RJR purchased the product that would be known as the Vuse Alto from Smoore, "we asked Smoore, and we did say, you know, we got IP against this, is there IP against this? And we felt we were in pretty good shape." (Tr. 611:17-18, 612:6-10.) When asked if RJR had "any corporate policies that relate respecting patent rights of other companies", Dr. Figlar answered "yes" and described the "corporate policy" as "we need to respect other peoples' or companies' intellectual property, and that's what we try to do." (Tr. 622:7-9, 19-22.)[14] Dr. Figlar was asked to tell the jury "efforts that Reynolds undertakes to avoid infringing another company's patents" and responded,

> We do an analysis of the patent literature of what is available out there, when it becomes public, and try to get an understanding of what that landscape is so we know what patents are issued, we know which ones have got published, which may issue at some point in time. So we keep an eye on that.

(Tr. 623:7-14.) He was asked if RJR monitored "other companies' patents in order to copy their patents" or "steal technology." (Tr. 623:15-20.) "No", he said "[b]ecause it's not legal . . . [or] appropriate. I mean, we're a big company, and, you know, we try to operate as, you know, a big lawful company should operate.

[14] During Dr. Figlar's deposition, he was asked, "Do you see that?" after counsel read from what was "the Company['s]" policies on intellectual property rights. He answered, "I do." But the portion of his testimony played at trial gave no further information about this purported policy of "the Company." (See Figlar Dep. 84:10-85:17.)

So that's what we try to do." (Tr. 623: 17-25.) On that, his direct examination ended.

Counsel for RJR, Diane Sullivan, began her cross-examination of Dr. Figlar as follows:

> Q. Dr. Figlar, you mentioned that you have a policy at Reynolds where you don't infringe other peoples' patents. You told the jury that?
>
> A. That's correct, yes. It is certainly not our intention to. That is correct.
>
> **Q. Isn't it true – is it true, sir, that Reynolds has been found liable for patent infringement in two cases in the last two years?**

RJR's counsel objected before Dr. Figlar responded and at the ensuing bench conference moved for mistrial because "[t]hat is an intentional violation of the stipulation that [the parties] had in this case." (Tr. 624:14-625:3 (emphasis added).) Sullivan contended that RJR had "opened the door as broad as it could possibly – it put this squarely at issue." (Tr. 625:4-5.) "But if you have a stipulation," the Court asked Sullivan, "shouldn't you have approached the bench to talk with the Court about it before you asked the question?" (Tr. 625:6-8.)

Once the jury was excused, Sullivan told the Court that "in fairness, I was shocked when [RJR's counsel] broached this subject, particularly since Dr. Figlar was a witness in one of the cases where Reynolds was found to be infringed." (Tr. 627:2-5.) The Court responded,

> Ms. Sullivan, whether subjectively you were shocked or not, really, is not the question. The question is whether or not that was a sufficient violation of the stipulation to warrant the granting of a

> mistrial, which has now been moved for. And I think we're going to need some serious consideration of law from both sides with regard to it.
>
> . . . I think really the proper approach to take here is to determine whether or not that was an opening of the door which would justify that question before we go further. If it was not, then certainly the jury should not have heard your question.
>
> . . .
>
> And the question is whether or not the jury can be instructed to disregard that answer in such a way they can disregard it.
>
> But this puts the whole thing subject to question. All the time that was spent last week, all the time we spent this week, and this jury's time. If there is something like that that somebody feels a door has been opened, I went over that lots of time last week. And I understand you weren't able to be with us last week.
>
> My position has been strongly before you do it, before you ask a question that you feel the door has been opened to allow, you let the Court know that you wish to do that and get the Court's approval before it is done.

(Tr. 627:9-628:9.) Altria's counsel opposed a mistrial in part because "Dr. Figlar didn't even answer the question," "but," the Court explained, "the form of the question suggested strongly what the answer was . . . ." (Tr. 641:21-642:2.)

A discussion then ensued among the Court and counsel about a curative instruction to the jury. RJR's counsel opposed the Court's proposed instruction,

> "[R]ight before [you] went to recess, a question was asked which suggested, effectively, that Reynolds had been involved in other cases, not this one, and it would be highly improper for [you] to consider that in any way in arriving at a verdict in this case. And would anybody have difficulty erasing that completely from [your] minds as [you] deliberate[] and return[] a verdict."

(Tr. 643:23-644:18.) Although RJR's counsel ultimately did not believe a curative instruction would be sufficient, if the Court were to instruct the jury, RJR requested the jurors either be asked individually or be instructed, "Before the break, Altria asked a question that was improper. Can you disregard that and set it aside?" (Tr. 644:19-645:9.) Further discussion ensued, and the Court expressed its concern that asking "the jurors whether they remember the question that was asked immediately" before recess, as RJR's counsel proposed, would "put it under the microscope" and "blow it up." (Tr. 645:10-646:11.)

After the jury returned to the courtroom, the Court instructed them as follows,

> Members of the jury, before you were excused for lunch, in Dr. Figlar's cross-examination, a suggestion was made, improperly, in asking him a question, had Reynolds been involved in cases other than this one. That question was not answered. There was an objection beforehand, properly so. That was not a proper question and it should not be considered for any purpose by the jury.
>
> But let me ask you this, would anybody sitting there have any difficulty at all erasing that from your mind, not considering it for any reason, for any purpose during your deliberations? Anybody have any difficulty, please raise your hand.

(Tr. 647:6-17.) No juror having raised his or her hand, Dr. Figlar's cross-examination continued.

In support of its motion for a new trial, RJR argues that "Altria deliberately disregarded both its stipulation and the Rules of Evidence without so much as approaching the bench" and "made a premeditated choice to use those [prior infringement findings]" by including them in Altria's cross-examination binders.

(Def.'s Mem. in Supp. of 59(a) at 2-3.) As for Altria's contention that Dr. Figlar's testimony opened the door for Sullivan's question, RJR responds that "[a]t no time did Figlar testify that Reynolds has never infringed. He testified only that Reynolds tries to behave lawfully and it is not Reynolds's intention to infringe." (Id. at 4; see also id. at 5 (quoting United States v. Rea, 958 F.2d 1206, 1225 (2d Cir. 1992), for the proposition that that "the doctrine applies '(a) when the opposing party has introduced inadmissible evidence on the same issue, and (b) when it is needed to rebut a false impression that may have resulted from the opposing party's evidence'").) Even if the door were opened, RJR contends that "Altria's intentional reference to infringement findings in other cases was not commensurate with any need to rebut Figlar's testimony, and was instead designed only to poison the jury against Reynolds." (Id. at 5-6 (citing United States v. Sine, 493 F.3d 1021, 1037-38 (9th Cir. 2007); Valadez v. Watkins Motor Lines, Inc., 758 F.3d 975, 981-82 (8th Cir. 2014).)[15]

In addition, RJR believes the Court's instruction was not actually curative because Sullivan's intentional question was too prejudicial in the first place and the Court's instruction was ultimately too general. (Id. at 6-7.) Although RJR recognizes that the Court acted "out of a reasonable concern that identifying the

[15] As further support that Altria intended to "inject[] irrelevant, prejudicial information that would inflame the passions of the jury against Reynolds," RJR points to Altria's counsel's repeated reference to and mispronunciation of RJR's Chinese supplier, as well as numerous references to RJR's law firm. (Def.'s Mem. in Supp. of 59(a) at 7-8.)

specific question would 'put it under the microscope,'" "that only underlines the problem with using a curative instruction" here. (Id. at 7.)

On the other hand, Altria maintains that Dr. Figlar's "counter-designated deposition and trial testimonies violated the spirit of the parties' stipulation and opened the door to Altria's question by implying the Reynolds does not infringe the [Asserted] Patents because it has a policy of avoiding infringement." (Pl.'s Opp'n to 59(a) at 6-9.) Therefore, according to Altria, its "reference to Reynolds's past infringement directly contradicted that and was therefore a commensurate response." (Id. at 8 (relying on VLSI Tech., LLC v. Intel Corp., No. 18-cv-966, 2022 WL 2304112, at *2 (D. Del. June 27, 2022)).) Altria also argues that the Court's instruction "cured any alleged prejudice to Reynolds . . ." and distinguishes the facts here from those in cases cited by RJR. (Id. at 1-6.)

There is no doubt that Sullivan erred when she posed her question to Dr. Figlar – the form of which "suggested strongly what the answer was." This type of "artful cross-examination" especially by experienced litigators has repeatedly been censured by courts. See, e.g., United States v. Hall, 989 F.2d 711, 715-17 (4th Cir. 1993); Maricopa Cnty. v. Maberry, 555 F.2d 207, 217-23 (9th Cir. 1977). Believing Dr. Figlar's testimony opened the door to her question, Sullivan knew to approach the bench to discuss such a situation before moving forward with the evidence.

Indeed, Sullivan was well aware of the Court's door-opening procedure which the parties had observed throughout trial. Two days earlier, Sullivan had

just finished examining Eric Hawes when RJR's counsel asked to approach the bench before beginning cross-examination. With RJR's counsel and Sullivan present at the bench conference, RJR's counsel explained that she had asked to approach the bench because "at the hearings we had last week, Your Honor asked us to approach if we felt that the door had been opened . . . ." (Tr. 209:21-210:7.) The Court excused the jury and then had a lengthy exchange with RJR's counsel on the issue. (Tr. 210:10-214:8, 215:8-216:19.) The next day, when RJR's counsel was cross-examining Malackowski, Sullivan's co-counsel objected and asked to approach the bench. Once there, she expressed her concern that RJR's counsel's line of questioning "is opening the door to the communications" the Court had earlier excluded. (Tr. 482:7-10.) In sum, there is simply no excuse for Sullivan's conduct.

Whether the issue here is classified as door-opening as Altria argues or "curative admissibility" as RJR suggests,[16] it simply cannot be that Dr. Figlar's testimony that RJR tries not to infringe permitted the admission into evidence of previous infringement findings against RJR, especially when Altria agreed before trial that it would "not present . . . evidence, testimony, or make reference to

[16] See 21 Daniel D. Blinka & Kenneth W. Graham, Jr., Federal Practice and Procedure §§ 5039.1, 5039.3 (2d ed. Apr. 2022 update) (distinguishing "true 'opening the door' from 'curative admissibility'" and noting that courts and scholars "frequently use the phrase 'opening the door' when they are actually applying one of the other doctrines").

alleged prior infringement by Reynolds of patents not related to the present case or otherwise imply that Reynolds is a serial infringer."

It is presumed that a jury will follow a curative instruction to disregard inadmissible evidence "unless there is an 'overwhelming probability' that the jury will be unable to follow the court's instructions, and a strong likelihood that the effect of the evidence would be 'devastating' to the defendant." Greer v. Miller, 483 U.S. 756, 766 n.8 (1987) (internal citations omitted). According to RJR, Sullivan's question of Dr. Figlar is one of those "'instances where the jury is exposed to inadmissible evidence which could make such a strong impression [or is so flagrantly prejudicial] that instructions to disregard it may not remove its prejudicial effect.'" (Def.'s Mem. in Supp. of 59(a) at 6 (quoting United States v. Brevard, 739 F.2d 180, 182 (4th Cir. 1984) & Nipper v. Snipes, 7 F.3d 415, 418 (4th Cir. 1993)).)

What happened during Dr. Figlar's cross-examination is easily distinguishable from the cases RJR cites, though. In Brevard, an FBI agent referenced the defendant's inadmissible polygraph test three times. 739 F.2d 181-82. The court warned the prosecutor after each of the first two occasions – first expressing disdain and a belief the agent acted deliberately and next warning counsel of a mistrial and the agent's contempt of court. Id. at 181-82. After the third reference, the court instructed the jury to disregard that testimony. Id. at 182. The implications in this criminal case of the agent's testimony were significant, so much so that the court's instruction was insufficient and a new trial was ordered.

Id. at 182-83. In Nipper, a fraud and civil conspiracy case, plaintiffs' counsel read into evidence findings of fact by a state court in another case, portions of which "repeatedly referred to factual findings of misrepresentations made by [the defendant], [his] failure to disclose material information, and [his] participation in a civil conspiracy." 7 F.3d at 416. The court's limiting instruction could not sufficiently overcome the "flagrantly prejudicial" inadmissible evidence. Id. at 417-18.

Immediately after Sullivan's question of Dr. Figlar (and before he had the opportunity to answer), RJR's counsel objected and asked to approach the bench. The jury was excused for lunch while the parties researched the applicable law and discussed with the Court the appropriate action to take. When the jury returned from lunch, the Court instructed the jury on the impropriety of Sullivan's question. Then Sullivan continued her cross-examination of Dr. Figlar and did not refer to those prior lawsuits again.[17] And, despite RJR's argument to the contrary, Altria's pronunciation of RJR's Chinese supplier or references to its law firm are not so prejudicial, if at all, to affect the jury's verdict on infringement (or invalidity). Having reviewed the relevant trial transcript, the Court remains of the opinion that its curative instruction was sufficient to address what occurred here.

B.

[17] Altria does not dispute that it included infringement findings in witness binders. (Pl.'s Opp'n to 59(a) at 9 (arguing that "[w]ell-prepared parties frequently include materials in witness binders for use only in the event of door-opening").) However, those documents were never used in any way during trial.

RJR takes issue with several evidentiary rulings that it contends ultimately require a new trial – the exclusion of evidence of public use of the JUUL device and the limitation on the cross-examination of McAlexander about the 2015 JUUL device. "When, as here, a new trial is sought based on purported evidentiary errors by the district court, a verdict may be set aside only if an error is so grievous as to have rendered the entire trial unfair." Consol Energy, Inc., 860 F.3d at 145. It is determined that none of these evidentiary rulings was in error, and even if they were, the trial was not rendered unfair for RJR.

1.

RJR criticizes the Court's exclusion of Eng's deposition testimony on the "public use of the JUUL device," preclusion of Leinsing's discussion on the topic, and exclusion of a video purportedly demonstrating public use of the JUUL device (RX-427), all of which led RJR to stipulate to the withdrawal of its public use defense based on JUUL. (Def.'s Mem. in Supp. 59(a) at 9-11 (citing Tr. 14:5-9 (Aug. 23, 2022), Tr. 70:11-15, 77:7-13 (Aug. 24, 2022).)

A review of the transcripts from the pre-trial hearings on the parties' motions in limine does not change the Court's assessment of this evidence. First, Eng was deposed as the 30(b)(6) witness for non-party JUUL Labs, Inc. Thus, his deposition testimony was not admissible at trial under Federal Rule of Civil Procedure 32(a)(3) (which permits an adverse party to use the deposition testimony of a party's 30(b)(6) designee for any purpose) or Federal Rule of Evidence 801(d)(2) (which excludes from hearsay an opposing party's statement).

Cf. Kelly Servs., Inc. v. Creative Harbor, LLC, 846, F.3d 857, 867 (6th Cir. 2017) (finding no error, pursuant to Fed. R. Civ. P. 32(a)(3) and Fed. R. Evid. 801(d)(2)(c), when court considered deposition testimony of party's 30(b)(6) witness). "In order for a party to use a deposition at trial, the court must find the deposition admissible under the rules of evidence . . . ." Coletti v. Cudd Pressure Control, 165 F.3d 767, 773 (10th Cir. 1999). Because Eng's only understanding of the events surrounding the JUUL Articles came from others, his testimony on those matters was inadmissible hearsay. See Fed. R. Evid. 801(c) (defining hearsay); Fed. R. Evid. 802 (prohibiting the admission of hearsay unless otherwise provided in federal statute or rule). And because he had no personal knowledge of that subject, see Fed. R. Evid. 602 (requiring personal knowledge), his testimony on it was properly excluded. (Cf. Tr. 70:11-71:20 (Aug. 24, 2022) (permitting admission of Eng's testimony on changes, if any, to the device).)

Next, as an expert, Leinsing's testimony was admissible, as is relevant here, under Federal Rule of Evidence 702 to the extent that it concerned "(1) scientific, technical, or other specialized knowledge that (2) . . . aid[ed] the jury or other trier of fact to understand or resolve a fact at issue." Westberry v. Gislaved Gummi AB, 178 F.3d 257, 260 (4th Cir. 1999) (citing Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 592 (1993)). As the Daubert Court presumed, the latitude that Rule 702 affords experts "is premised on an assumption that the expert's opinion will have a reliable basis in the knowledge and experience of his discipline." 509 U.S. at 592. At trial, Leinsing was qualified "as an expert in the field of

mechanical engineering, product design, and industrial design." (Tr. 524:2-3.) At issue were his "qualifications to consider the public use of the Juul device." (Tr. 77:14-17 (Aug. 24, 2022).) Even if an expert were permitted to opine on public use, after hearing from Leinsing during the pre-trial hearings, it was determined that he could not because he did not possess the necessary technical expertise "to say he is an expert in determining public use or that those [JUUL] articles are sufficiently reliable to support an opinion." (Tr. 78:7-13 (Aug. 24, 2022).) This proposed testimony would have been unreliable and, thus, inadmissible. See Daubert, 509 U.S. at 590 ("In short, the requirement that an expert's testimony pertain to 'scientific knowledge' establishes a standard of evidentiary reliability.").

Finally, the video purportedly showing the public use of the JUUL device was also properly excluded. Several legal concepts determine the admissibility of this video. There is the question of "whether the public use related to a device that embodied the invention." Zenith Elecs. Corp. v. PDI Commc'n Sys., Inc., 522 F.3d 1348, 1356 (Fed. Cir. 2008). That leads to the fundamental admissibility requirement that evidence be relevant. Fed. R. Evid. 401, 402. Relevant evidence is that which tends "to make a fact more or less probable than it would be without the evidence; and [] the fact is of consequence in determining the action." Fed. R. Evid. 401. But "evidence cannot have a tendency to make the existence of a disputed fact more or less likely if the evidence is not that which its proponent claims." United States v. Branch, 970 F.2d 1368, 1370 (4th Cir. 1992); see also Fed. R. Evid. 901(a) ("To satisfy the requirement of authenticating or identifying an

item of evidence, the proponent must produce evidence sufficient to support a finding that the item is what the proponent claims it is."). "Before admitting evidence for consideration by the jury, the district court must determine whether its proponent has offered a satisfactory foundation from which the jury could reasonably find that the evidence is authentic." Branch, 907 F.3d at 1370 (citing Fed. R. Evid. 104(b) advisory committee's note).

RJR argues that the video was released online on April 21, 2015 "by Wired as a companion to its April 21, 2015 article[18] about the JUUL device" and "shows a woman using a JUUL." (Def.'s Mem. in Supp. of 59(a) at 9.) "Considered in combination with the Wired article's detailed descriptions and photographs of the JUUL device, there is no real question that the video portrayed use of a JUUL device." (Id.) RJR advanced similar arguments at the pre-trial hearings after playing the muted video. (Tr. 78:21-80:6 (Aug. 24, 2022).) Having watched the video and heard counsel's argument, the Court explained,

> I certainly agree there is a suggestion there as to what the device is. When you see the person's profile, you can't recognize that, I couldn't, as to the devices. . . . I mean, it's set up to suggest that it is the Juul device, but then the next thing you see is somebody holding it in profile, and you can't identify from that profile whether it's the Juul device or not.

It was determined that the video was not sufficiently suggestive to be admissible. (Tr. 79:15-80:20 (Aug. 24, 2022).) In other words, RJR did not present sufficient evidence from which a jury could reasonably find that the video shows what RJR

[18] The Wired article (RX-130) makes no mention of this "companion" video.

purports it to show – the use of the JUUL device. Nothing now before the Court changes that assessment.

2.

RJR also challenges the limitations placed on its cross-examination of McAlexander which "impaired [its] ability to challenge McAlexander's invalidity opinion." (Def.'s Mem. in Supp. of 59(a) at 12 (citing Tr. 843:21-844:3, 845:17-24, 826:13-15).) RJR contends that even though the 2015 JUUL device could not be invalidating prior art given the Court's rulings, "that device was probative of the state of the art prior to Altria's patent application, and of obviousness." (Id.; see also id. at 11 (citing cases for the proposition that "[r]eferences dated after the priority date are proper evidence of the state of the art at the time of an alleged invention").) According to RJR,

> [it] should have been permitted to walk through the features of the 2015 JUUL device with McAlexander and compare those features to the claims of the asserted patents. Doing so would have demonstrated that, to the extent the prior art JUUL articles and Inova product did not contain any given limitation of the asserted patent claims, Altria's alleged invention was nevertheless obvious and "the product only of ordinary mechanical or engineering skill and not of inventive genius" given the independent development of JUUL and other products released in the "comparatively short space of time" between March and June 2015.

(Id. at 12-13 (quoting Geo M. Martin Co. v. All Mech. Sys. Int'l, 618 F.3d 1294, 130[5] (Fed. Cir. 2010)).)

Altria argues that RJR's intended use of the 2015 JUUL device was as prior art, not as a "state-of-the-art reference[] . . . probative of the knowledge of a

POSA at the time of the invention." (Pl.'s Opp'n to 59(a) at 12.) This is especially "clear," so says Altria, when RJR's motion is assessed in view of Leinsing's testimony and RJR's counsel's argument at trial that "his intended cross-examination of McAlexander was premised on the assumption that the 2015 JUUL Device 'was representative of what's in the articles' asserted as prior art." (Id. at 13 (citing Tr. 540:22-541:9, 554:19-556:6 (Leinsing); Tr. 845:13-16 (counsel)).)

Indeed, the Federal Circuit "has noted the relevance of contemporaneous independent invention to the level of ordinary knowledge or skill in the art" and "has also acknowledged the view that this evidence is relevant as a secondary consideration." Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 883 (Fed. Cir. 1998) (citing In re Merck & Co., 800 F.2d 1091, 1098 (Fed. Cir. 1986) (level of ordinary skill in the art); Medtronic, Inc. v. Daig Corp., 789 F.2d 903, 906 (Fed. Cir. 1986) (secondary consideration)); see also, e.g., Disney Enters., Inc. v. Kappos, 923 F. Supp. 2d 788, 801 (E.D. Va. 2013) (finding publications published within one to six months after the date of the invention relevant to the state of the art at the time of the invention); Netscape Commc'ns Corp. v. ValueClick, Inc., 707 F. Supp. 2d 640, 651, 653, 655-56 (E.D. Va. 2010) (finding patents and proposals post-dating the priority date by six to ten months "relevant to proving the characteristics and understanding of an individual of ordinary skill in the art at the time of the invention"). It "can be difficult to draw" "the line between when a reference is used as background material" on the level of ordinary skill in the art "and when it is used as [a prior art] . . . obviousness

reference." Finjan, Inc. v. Sophos, Inc., No. 14-cv-01197-WHO, 2016 WL 2988834, at *12 (N.D. Cal. May 24, 2016) (striking "undisclosed references regarding the skill and knowledge of a PHOSITA . . . to the extent that the references [were] being used as invalidating prior art references" but allowing the references to be used "merely as background material").

The Court agrees with Altria. Placing in context RJR's arguments here and at trial and its voir dire of McAlexander, RJR's intended use of the 2015 JUUL device was ultimately as prior art rather than as state-of-the-art evidence.

After RJR's counsel asked McAlexander about the JUUL Articles, he began inquiring about the 2015 JUUL device and Leinsing's photographs of it. (Tr. 827:2-835:6.) When McAlexander testified that he did not "see anything that identifie[d]" the "sample in [his] hand" as "a 2015 sample," counsel tried to ask McAlexander about Eng's deposition testimony which led to a bench conference. The jury was then excused so the parties and the Court could more fully address the line of questioning. (Tr. 835:8-837:17.)

Counsel for RJR explained that "what went in yesterday is all I'm referring to, Your Honor, as far as what was known in April 2015" to a POSA "because there is evidence that that sample was available and functional in April of 2015 from Mr. Eng. And so as a [POSA], that is something [McAlexander] can rely upon." (Tr. 838:5-16 (emphases added); see also Tr. 837:7-10 ("Well, I think the evidence is, is that this is representative of a functional product from April 2015. I think I'm entitled to say that that's what Mr. Eng's testimony was.") (emphasis

added).) In other words, RJR's counsel wanted to ask McAlexander about the purported June 2015 device to connect it to the device that was allegedly functional as of April 21, 2015. In response, Altria's counsel expressed concern that RJR's proposed examination of McAlexander on this topic would "confuse the jury as to what they are supposed to consider for purposes of prior art" because, as for JUUL, "[a]ll that is left is the Juul articles as their prior art . . . ." (Tr. 839:16-840:6.)

RJR's counsel then conducted a voir dire examination of McAlexander, asking first "if the jury should find there were no substantial differences between the Juul device shown in the 2015 Juul articles and the product sold – and the Juul product sold commercially in 2015, would you think it reasonable for a [POSA] at the time to consider such sample?" McAlexander responded no and explained that the sample's "release date was in June of 2015, and the [POSA] is sitting within the art group of what's prior art as of April 22, 2015" and "doesn't have access to that [sample]. . . . There is no Juul product that is proposed or shown as prior art." "What that [POSA] has are the three Juul articles. That's what the representation is, as I have understood, for the prior art." (Tr. 840:14-842:12.)

When the Court pressed counsel further on his line of questioning, counsel explained, "I think that the articles say that there was – I know we can't say that it was disclosed [in the articles], but we have evidence where articles did exist, and so this sample is . . . not materially different than the article that did exist, and

so a POSA would have had access to a functional product." When asked how a POSA would have access to a functional product, counsel responded, "[W]e know they were available from Mr. Eng's testimony." (Tr. 843:2-844:15.)

Compare this to Leinsing's testimony on "the state of the art." RJR's counsel set the stage by telling Leinsing that he wanted "to talk a little bit about the state of the art." Leinsing then described the general "state of the art of e-cigarette technology before April 22, 2015" ("some sort of battery . . . used to energize a heat source" that "then heats up the liquid" that "then vaporizes, going into a vaping channel to the mouthpiece where the consumer would inhale the vapor"), and he identified "examples of pod-type devices available as of April 22, 2015 ("the device shown in the Juul articles called the Juul device," Inova, V2 Pro Series 8, iPH-8, and iJoy). (Tr. 525:22-529:16.) After counsel and Leinsing "talked generally about the state of the art [of] e-cigarette technology before April 22, 2015," they moved on to prior art and Leinsing's detailed invalidity analysis. (529:15-559:23.)

Had RJR's counsel intended to cross-examine McAlexander on the state of the art using the 2015 JUUL device, he knew how to do so. But that is not what counsel appeared to be doing when examining McAlexander. Nor did counsel explain the relevance of asking McAlexander about the 2015 JUUL device as it relates to obviousness. Instead, he wanted to ask McAlexander about the device that existed in April 2015 but RJR was prohibited from using a JUUL device as prior art. In sum, none of the purported evidentiary errors supports a new trial.

C.

RJR also claims that the jury's damages award (1) "is against the weight of the evidence because neither agreement reflects a 5.25% royalty rate for comparable sales" and (2) "[s]eparately, . . . is also contrary to law and against the weight of the evidence because it relies on a theory of built-in apportionment that is unsupported by the evidence." (Def.'s Mem. in Supp. of 59(a) at 13-21 (also relatedly arguing that the jury instruction on built-in apportionment was error).) Although RJR believes either of these warrant a new trial, it also contends that the Court should remit damages to no more than $9,523,329 "to avoid a miscarriage of justice." (Id. at 21-22.) Both parties rely here on similar arguments they made in support of or in opposition to RJR's motion for JMOL on damages. (Compare id. at 13-20 and Pl.'s Opp'n to 59(a) at 13-20 with Def.'s Mem. in Supp. of 50(b) at 25-28 and Pl.'s Opp'n to 50(b) at 19-24.)

The relevant law on patent damages was cited above but is worth restating for purposes of this Rule 59(a) motion.

> "Upon a finding of infringement, the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer.'" Virnetx, Inc. v. Cisco Sys., Inc., 767 F.3d 1308, 1326 (Fed. Cir. 2014) (quoting 35 U.S.C. § 284). The "hypothetical negotiation approach" is the "most common method for determining a reasonable royalty," id., and was the approach the parties' damages experts agreed applied here.
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> . . .
>
> There is no dispute that "'the patentee must in every case give evidence tending to separate or apportion . . . the patentee's damages between the patented feature and the unpatented features . . . .'" Omega Patents, LLC v. CalAmp Corp., 13 F.4th 1361, 1376 (Fed.

> Cir. 2021) (quoting LaserDynamics, Inc. v. Quanta Comput., Inc., 694 F.3d 51, 67 (Fed. Cir. 2012) (cleaned up per Omega Patents, LLC)). This apportionment can be "built-in" "'when a sufficiently comparable license is used as the basis for determining the appropriate royalty . . . .'" Id. at 1376-77 (quoting Vectura Ltd. v. GlaxoSmithKline LLC, 981 F.3d 1030, 1040 (Fed. Cir. 2020)). This is so because "'[b]uilt-in apportionment effectively assumes that the negotiators of a comparable license settled on a royalty rate and royalty base combination embodying the value of the asserted patent.'" Id. at 1377 (quoting Vectura Ltd., 981 F.3d at 1041).
>
> It is the patentee's burden to show that the licenses are sufficiently comparable. Id. (citing Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1329 (Fed. Cir. 2009)). When "allegedly comparable licenses . . . cover more patents than are at issue in the action, including cross-licensing terms, [or] cover foreign intellectual property rights", the patentee is "required to 'account for such distinguishing facts when invoking [the licenses] to value the patented invention.'" Id. at 1380 (quoting Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3 1201, 1227 (Fed. Cir. 2014) (alterations in Omega Patents, LLC)).

(Supra §§ II.D.1. (royalty rate), II.D.2. (apportionment).)

It was previously determined in denying RJR's motion for JMOL that sufficient evidence supported the jury's damages award. (Supra § II.D.1.) The presentation of evidence recited as part of that determination also illustrates that a new trial on damages is not necessary because the award was not against the clear weight of the evidence. (See supra §§ II.D.1. (royalty rate), II.D.2. (apportionment).) Because use of the built-in apportionment theory is neither contrary to law nor against the weight of the evidence, (see supra § II.D.2.), it was appropriate to instruct the jury that if the jury found "that the asserted patents are technologically comparable to the Fontem patents licensed as part of the Fontem-Nu Mark agreement and the Fontem-Reynolds agreement, then [the jury] may

assume that the value attributable to the patent invention (i.e., apportionment) has already been baked into the comparable licenses."

Remittitur, assessed under the law of the regional circuit, Monsanto Co. v. Ralph, 382 F.3d 1374, 1384 (Fed. Cir. 2004), is also not necessary. "Remittitur, which is used in connection with Fed. R. Civ. P. 59(a), 'is a process, dating back to 1822, by which the trial court orders a new trial unless the plaintiff accepts a reduction in an excessive jury award.'" Cline v. Wal-Mart Stores, Inc., 144 F.3d 294, 305 (4th Cir. 1998) (quoting Atlas Food Sys. & Servs., Inc. v. Crane Nat'l Vendors, Inc., 99 F.3d 587, 593 (4th Cir. 1996)). "[I]f the reviewing court concludes that a verdict is excessive, 'it is the court's duty to require a remittitur or order a new trial.'" Id. (quoting Atlas Food Sys. & Servs., Inc., 99 F.3d at 593). But, here, as explained above, the verdict is not excessive or against the clear weight of the evidence and does not result in a miscarriage of justice.

D.

RJR ultimately contends that "the various errors and aberrations described [in its motion] compounded upon one another, such that Reynolds did not receive a fair trial." (Def.'s Mem. in Supp. of 59(a) at 23 (quoting Kozlowski v. Hampton Sch. Bd., 77 F. App'x 133, 154 (4th Cir. 2003)).) The cumulative-error doctrine arises when "'the cumulative effect of two or more individually harmless errors has the potential to prejudice a defendant to the same extent as a single reversible error.'" United States v. Runyon, 707 F.3d 475, 520 (4th Cir. 2013) (quoting United States v. Basham, 561 F.3d 302, 330 (4th Cir. 2009)). The "'errors must

so fatally infect the trial that they violated the trial's fundamental fairness.'" Id. (quoting Basham, 561 F.3d at 330). Not only is the "'remedy of reversing for cumulative error'" an "'unusual'" one, id. (quoting Basham, 561 F.3d at 330), but the Fourth Circuit Court of Appeals has "generally only applied the cumulative-error doctrine in criminal cases" and has "not precedentially determined whether it" applies in civil cases, Ward v. AutoZoners, LLC, 958 F.3d 254, 273-74 (4th Cir. 2020) (also noting the circuit split on the issue).

Even assuming the doctrine applies to civil cases and there are harmless errors here, "they were not widespread or prejudicial enough to have fatally infected" the trial. Id. (quoting United States v. Lighty, 616 F.3d 321, 371 (4th Cir. 2010)). RJR cross-examined Altria's infringement, damages, and validity witnesses and presented its own expert testimony on those matters. Its witnesses explained, from RJR's perspective, the state of the art facing a POSA at the relevant time, how the JUUL Articles and the Inova device invalidated the Asserted Claims, the differences between the Vuse Alto device and the Asserted Claims, the similarities between the JUUL device produced after May 2019 and the Asserted Claims, and the proper method of calculating damages. That the jury did not agree with RJR does not mean the trial was unfair.

E.

In sum, RJR's motion for a new trial or remittitur is denied.

IV.

For the reasons explained in this Memorandum Opinion, IT IS HEREBY ORDERED that the motions to seal [Docs. #421 (as modified by Doc. #467), 423 (as modified by Doc. #467), 438, 442, 447, 452, 456, 482, 484, 497, 502, 530, 538, 542, 545, 552, and 555] are GRANTED IN PART AND DENIED IN PART as explained in Section I of this Memorandum Opinion, the Motion to Supplement [Doc. #466] is GRANTED, and the Consent Motion for an Extension of Time [Doc. #561] is GRANTED;

IT IS FURTHER ORDERED that Altria's Motion for Judgment as a Matter of Law Pursuant to FRCP 50(a) on No Invalidity [Doc. #445] is DENIED AS MOOT, Altria Client Services LLC's Motion for Judgment as a Matter of Law Pursuant to FRCP 50(a) on Infringement and Marking [Doc. #454] is DENIED AS MOOT, R.J. Reynolds Vapor Company's Rule 50(a) Motion on Non-Infringement and Damages [Doc. #436] is DENIED AS MOOT, Reynolds's Rule 50(a) Motion for Judgment as a Matter of Law of Invalidity of the Asserted Patents [Doc. #450] is DENIED AS MOOT; and

IT IS FURTHER ORDERED that R.J. Reynolds Vapor Company's Rule 50(b) Motion for Judgment as a Matter of Law [Doc. #500] is DENIED and R.J. Reynolds Vapor Company's Rule 59 Motion for New Trial or Remittitur [Doc. #495] is DENIED.

This the 12th day of January, 2023.

/s/ N. Carlton Tilley, Jr.
Senior United States District Judge